

# Education Resources



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SOS Explorer Lite (SOSx) is a tool that can be used in many ways. In this section we describe some examples of how we have used SOS Explorer Lite with SOS datasets and provide lesson examples to help you get started.

Why use data visualization in education?

- Data visualization allows analysis and understanding of complex data
- Data visualization helps bridge understanding of observations versus computer modeling
- Data visualization lets you see things that would otherwise go unnoticed - trends, behavior patterns, curious relationships
- Big data is an emerging trend in - marketing, sales, business, science, customer relations, technology...

## Presentation/Group Discussion

Just as Science On a Sphere is often used as a docent-led presentation tool, SOS Explorer Lite can be used in this way. For instance, when introducing or concluding a unit of study or a concept, a dataset can be displayed on a projector screen or a large monitor in front of the class and discussed. Likewise, multiple datasets can be strung together to tell a story or complete a learning goal. There are three examples of how to do this included in the package, which we call “Tours.” Tours are scripted presentations that walk a user through the datasets using a storyline and a learning goal. These often include text, guiding questions, pop-up web content, videos, pictures/diagrams, and click-able place marks. To learn more about Tours and to access supplementary education materials, visit our [Content](#) page or click links below.

### Tours

- [Earth System Tour](#)
- [Plate Tectonics Tour](#)
- [Wind & Weather Tour](#)

## Direct Hands-on Learning

If you download SOS Explorer Lite onto multiple computers in your classroom, school computer lab or students' home computers, it is possible to use it as a direct learning tool. For example, in the [Plate Tectonics Lesson](#), students are given instructions for loading multiple datasets (i.e. Volcano Locations, 2011 Earthquakes, Plate Boundary Layers), plotting Top 10 Historical Earthquakes, reading about causes of plate tectonics and plate movement, and then asked to answer questions about what they see.

Student-led example lessons:

- [Plate Tectonics Lesson \(5-10th\)](#)
- [Plate Tectonics Lesson - Teacher version \(with answers\)](#)
- [Global Climate Change and Carbon Dioxide Lesson \(6-12th\)](#)
- [Global Climate Change and Carbon Dioxide Lesson - Teacher version \(with answers\)](#)

## Inquiry & Scientific Literacy

SOS datasets can be a powerful tool for inquiry. In large part, this is because upon first glance, SOS datasets can be complicated. This makes them perfect for inquiry learning and initiating deeper scientific and geographic research topics. In addition, each SOS dataset has a written description and can be good practice in scientific literacy.

Combining inquiry and literacy, here are a few lesson examples in a modified KWL format. KWL is a commonly used graphical organizer using the themes: Know, Want to know, Learned.

Using these examples, a teacher could display the dataset, have students fill out the boxes Know and Want to Know, come up with good questions about what they see, read the dataset description, fill out the box Still Want to Know, and plan a research investigation to answer one of their questions. What the student Learned might be shared, presented or written.

### Inquiry and Science Literacy lessons:

- [Atmospheric Chemistry – GEOS 5 Model \(6-12th\)](#)
- [Biosphere: Marine Chlorophyll Concentration and Land Vegetation \(6-12th\)](#)
- [CarbonTracker - 2005-2010 \(6-12th\)](#)